

REMARKS

This Amendment is made in response to the Official Action mailed July 23, 2009. Claims 6, 7 and 11 have been cancelled without prejudice to their continued prosecution in one or more continuation or divisional applications. Claims 1 and 16 have been amended. Claims 2-4 have been cancelled. New claim 19 has been added. Accordingly, claims 1, 5, 8-10 and 12-19 are now pending in this application. Reconsideration and withdrawal of the objections to and rejections of this application are respectfully requested in view of the above amendments, and further, in view of the following remarks.

Preliminarily, Applicant notes that claim 1 has been amended in order to clarify that the invention is directed to an aerosol dentifrice formulation comprising water, a particulate abrasive and a propellant, characterised in that the propellant comprises a non-hydrocarbon propellant being 3-2wt% of the formulation and a hydrocarbon propellant being 2-3 wt% of the formulation, wherein the non-hydrocarbon propellant consists of dimethylether and the hydrocarbon propellant consists of n-butane. In addition, new claim 19 has been added and is directed to a formulation of claim 1 wherein the pH ranges between 6 and 10. Support for this new claim can be found on page 4, lines 11-12, of the specification. No new matter has been added.

The specification has been objected to because of an alleged incorrect use of several trademarks, in particular, Zeodent 163, Zeodent 623 and Zeodent 124. Similarly, claim 16 has been rejected under 35 U.S.C. §112, second paragraph, as being indefinite. Reconsideration and withdrawal of the objection and the rejection are respectfully requested.

Claim 16 has been amended in order to recite inclusion of a thickening silica which is supported by the original usage of Zeodent 163 which is a thickening silica. Pages 2 and 4 of the specification have been amended in order to properly recite the trademarks using capital letters. The usage of the Zeodent mark in the examples is urged to be proper since there is a specific reference to the fact that Zeodent 124, Zeodent 623 and Zeodent 163 are trade names of Huber Corporation, USA. Therefore, the proprietary nature of the marks is being respected and every effort is being made to prevent their use in a manner which might adversely affect their validity as trademarks. Favorable reconsideration of the rejection is requested.

Claims 1-5, 8-10 and 12-18 have been rejected under 35 U.S.C. §103(a), being unpatentable over International Patent Publication No. WO 01/62211 ("the '211 publication") in view of U.S. Patent 5,824,289, granted October 20, 1998, to Stoltz ("Stoltz"). Reconsideration and withdrawal of the rejection are respectfully requested.

The '211 publication (the international counterpart application of DE-100 08 836, discussed at page 1 of the specification; copy of a translation is enclosed) relates to a post-foaming composition, i.e., a composition that is dispensed as a gel, and eventually foams upon

contact with saliva. In particular, the '211 publication describes its invention as covering a composition that is "dispensed from a dispenser as a non-foamed or only slightly foamed gel-like ribbon and which then gradually – particularly when applied in the mouth – forms a mousse-like "tingling" foam with a completely novel sensory feel." In addition, as admitted in the Action, the '211 publication fails to teach a combination of a non-hydrocarbon propellant which is dimethylether ("DME") and a hydrocarbon propellant which is n-butane. This is in contrast to the instant invention.

The instant invention provides an aerosol dentifrice formulation comprising water, a particulate abrasive and a propellant, characterised in that the propellant comprises a combination of a non-hydrocarbon propellant being 3-2wt% of the formulation and a hydrocarbon propellant being 2-3 wt% of the formulation, wherein the non-hydrocarbon propellant consists of dimethylether and the hydrocarbon propellant consists of n-butane. Upon expulsion of the formulation from the container it is already a stable and controllable foam. As is shown on page 5, lines 10-15, various combinations of DME and n-butane were tested and their foaming qualities observed.

When only a single propellant was used (0% n-butane and 5% DME; and 5% n-butane and 0% DME) the observations were outside the acceptable parameters for a stable and controllable foam, especially with respect to dispensing on to a small surface such as a toothbrush head. When both n-butane and DME were formulated consistent with the claimed invention (i.e., 3-2 wt. % DME and 2-3 wt. % n-butane, respectively), the foams are observed to be stable with either no, or slight expansion, and no collapse of the foam. The unexpected properties are persuasive of the patentability of the claimed invention, and would not have been predictable given the teaching of the '211 publication.

Regarding Stoltz, it relates to an oil-in-water emulsion, again, a very different formulation than that claimed herein, dispensed with an aerosol propellant, defined as including isobutene, propane, or mixtures thereof (see, col.2, lines 34-36; and col. 6, lines 64-66). The resultant foam is used to dispense a water-soluble fluoride component. According to Stoltz at col. 1, lines 42-53, the problem with previous foamable fluoride compositions was that they were prepared using substantially all water-soluble ingredients, which ingredients dictated that the foams dissipated rapidly in the presence of saliva, thereby failing to allow sufficient time for the active ingredient, fluoride, to remain in contact with the teeth.

This problem was addressed in Stoltz by using an oil-in-water (hydrophobic) based emulsion rather than the aqueous or hydrophilic systems of the art (see, col. 3, lines 39-50). The emulsifiers disclosed in Stoltz also contribute to maintaining the acidic pH of the foams in the desired range of between 2.5 to 3.5 which are "desired for acidulated fluoride foam products." (See, col. 3, lines 57-64).

Stoltz teaches the use of propellants, preferably hydrocarbon propellants defined as including isobutene, propane, or mixtures thereof. DME is disclosed as a propellant with an appropriate vapour pressure (see table in col. 7), but is never disclosed in any of the examples. Most importantly, DME is not disclosed in combination with another propellant, let alone a hydrocarbon propellant which is n-butane, as claimed herein. In the Stoltz examples, the only combination of propellants that is taught is a combination of isobutane (A-31) and isobutane/propane (A-70), both mixtures of hydrocarbon propellants. All of this is taught in the context of dispensing an oil-in-water emulsion formulation with an acidic pH (ranging between 2.5 and 3.5). Assuming *arguendo* that Stoltz did teach a combination of a hydrocarbon and non-hydrocarbon propellant, it would not be suitable for use in the post-foaming gel composition of the '211 publication.

Therefore, the disclosure in the '211 publication of a post-foaming gel composition using a hydrocarbon propellant, and the disclosure of Stoltz of an acidic, foaming oil-in-water emulsion composition, read alone, or in any fair combination, fail to teach or suggest the instant invention of an aerosol dentifrice formulation comprising water, a particulate abrasive and a propellant, characterised in that the propellant comprises a combination of a non-hydrocarbon propellant being 3-2wt% of the formulation and a hydrocarbon propellant being 2-3 wt% of the formulation, wherein the non-hydrocarbon propellant consists of dimethylether and the hydrocarbon propellant consists of n-butane. Furthermore, Applicant asserts that the Action uses impermissible hindsight to pick and choose among isolated disclosures in the cited documents to reconstruct the instant invention. The cited documents are inadequate to have made the subject matter of the pending claims obvious, and the action fails to establish a *prima facie* case of obviousness. Reconsideration and withdrawal of the rejection under Section 103(a) are respectfully requested.

In view of the foregoing, favorable reconsideration of claims 1, 5, 8-10 and 12-18, favorable consideration of claim 19 and allowance of this application with claims 1, 5, 8-10 and 12-19 are earnestly solicited.

Respectfully Submitted,



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